ABSTRACT OF THE DISCLOSURE

A ceramic composite is a mixed conducting oxide that has a perovskite type crystal structure of $\{Ln_{1-a}A_a\}\{B_xB'_yB''_z\}O_{(3-\delta)}$ where a, x, y, and z are within the range of $0.8 \leqq a \leqq 1$, $0 < x$, $0 < y \leqq 0.5$, $0 \leqq z \leqq 0.2$, $0.98 \leqq x + y + z \leqq 1.02$, and δ denotes a value that is determined so as to meet a charge neutralization condition; Ln denotes a combination of one or more kinds of elements selected from Y or lanthanoide elements; A denotes a combination of one or more kinds of elements selected out of Ba, Sr, and Ca; B denotes a combination of one or more kinds of elements selected out of Co, Fe, Cr, and Ga, the combination always containing Fe or Co, wherein a summation of molar numbers of Cr and Ga is 0 % to 20 % of a total molar number 'x' of element B; B' denotes a combination of one or more kinds of elements selected out of Nb, Ta, Ti, and Zr, the combination always containing Nb or Ta, and where a summation of molar numbers is 0 % to 20 % of a total molar number 'y' of element B'; and B" denotes a combination of one or more kinds of elements selected out of Cu, Ni, Zn, Li, and Mg. This ceramic composite has its excellent properties as a dense film as well as a porous support body. In addition, another type of porous support body that the present invention provides is composed of a mixed conducting oxide and a ceramic composite, wherein, when the compositional formula is expressed as $AFe_xO_{(3-\delta)}$, the composite formula is constituted, A is selected out of Ba, Sr, and Ca, and is within the range of $0.98 \leqq x \leqq 1.02$, and δ denotes a value determined so as to meet the charge neutralization conditions.